

**RESPONSE TO FINAL OFFICE ACTION**

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**REMARKS**

This response is intended as a complete response to the Office Action dated December 7, 2005. In view of the following discussion, the Applicant believes that all claims are in allowable form.

**CLAIM AMENDMENTS**

Claims 2-19 have been renumbered as claims 37-54, as requested by the Examiner. Accordingly, renumbered claims 38-51 and 53-54 have been amended to correct their respective dependencies to reflect the renumbered claims. The Applicant submits that these amendments were made for reasons unrelated to patentability. The Applicant further submits that no substantive amendments to the claims have been made and that, therefore, no new matter has been entered, the scope of the claims remains unaffected, and no new search is required.

**CLAIM REJECTIONS**

Claims 37-54 stand rejected as being obvious in view of United States Patent 5,532,190 issued on July 2, 1996 to *Goodyear, et al.* (hereinafter *Goodyear*). The Applicant respectfully disagrees.

Independent claims 37 and 54 recite limitations not taught or suggested by any permissible combination of the cited art. *Goodyear* teaches a plasma treatment method in electronic device manufacture. *Goodyear* teaches a plasma deposition or etch process that provides, to regions of a substrate, a primary mixture of a first reaction gas and a second reaction gas to a substrate and a secondary mixture of the first reaction gas and the second reaction gas which is richer in the first reaction gas than the primary mixture. (*Goodyear*, Abstract; Fig. 1 and accompanying text.)

However, *Goodyear* fails to teach or suggest the limitations recited in claims 37 and 54. Specifically, the *Goodyear* fails to teach or suggest etching the substrate in a first step by supplying a first etch gas at a first rate to a first portion of the substrate through a first flow channel and supplying the first etch

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gas at a second rate to a second portion of the substrate through a second flow channel, wherein the first rate is different than the second rate; and etching the substrate in a second step by supplying a second etch gas at a third rate to the first portion of the substrate through the first flow channel; and supplying the second etch gas at a fourth rate to the second portion of the substrate through the second flow channel, wherein the third rate is different than the fourth rate, as recited in claim 37.

Furthermore, *Goodyear* further fails to teach or suggest controlling the supply of a first etch gas to a first portion of the substrate through a first flow channel and to a second portion of the substrate through a second flow channel to etch the substrate during a first etch step; and controlling the supply of a second etch gas to the first portion of the substrate through the first flow channel and to the second portion of the substrate through the second flow channel during a second etch step, as recited in claim 54.

The Examiner asserts that *Goodyear* teaches that variations may be done by one skilled in the art "in order to perform desired plasma processing such as etching a substrate in multiple sequential steps." (Final Office Action, p. 4, ll. 3-15; citing *Goodyear*, col. 8, ll. 43-51.) The Applicant respectfully disagrees.

The initial burden lies on the Examiner to create a *prima facie* case of obviousness, which requires that some suggestion or motivation exists, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. In addition, the teaching or suggestion to make the claimed combination must be found in the prior art, and must not be based on the Applicant's disclosure. *MPEP* §2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

One purpose of this requirement is to prevent the Examiner from inadvertently and improperly using hindsight and/or the Applicant's own disclosure, to support the rejection. For example, the Federal Circuit in *In re Dembiczak*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999), states that "[o]ur case law makes clear that the best defense against the subtle but powerful attraction of a

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hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."); see also, *In re Kotzab*, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000)("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed"); *In re Fritch*, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992)(the examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references").); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143 (Fed. Cir. 1985) ("When prior art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself.")

In this instance, the Examiner has not pointed to any references or to any knowledge generally available to one of ordinary skill in the art that would teach or suggest the limitations recited in independent claims 37 and 54. Moreover, the Examiner has offered no particular findings as to any reason a skilled artisan, with no knowledge of the claimed invention, would have modified the teachings of *Goodyear* in the manner proposed by the Examiner. Accordingly, the Applicant submits that a *prima facie* case of obviousness has not been established with respect to these claims and all claims respectively depending therefrom because the cited references fail to recite the claimed limitations and furthermore, because there is no motivation to make the proposed modification.

In addition, with respect to claim 43, *Goodyear* (alone or in combination with the knowledge generally available to one of ordinary skill in the art) further fails to teach or suggest supplying the first gas to the first portion for a first period of time; and supplying the first gas to the second portion for a second period of time that is different than the first period of time. *Goodyear* teaches only to adjust the richness of the gaseous mixtures being provided to the substrate during an etch or deposition process. *Goodyear* fails to teach or suggest

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supplying the first gas to the first portion for a first period of time; and supplying the first gas to the second portion for a second period of time that is different than the first period of time, as recited in claim 43.

As discussed above, the Examiner has not provided any secondary references or pointed to any knowledge generally available to one of ordinary skill in the art to show any teaching, suggestion, or motivation to make the proposed modification of *Goodyear*. Thus, a *prima facie* case of obviousness has not been established because the cited references fail to recite the claimed limitations and furthermore, because there is no motivation to make the proposed modification. Accordingly, the Applicant submits that claim 43 is further patentable over the cited art.

With respect to claim 44, *Goodyear* (alone or in combination with the knowledge generally available to one of ordinary skill in the art) further fails to teach or suggest supplying the second gas to the first portion for a first period of time; and supplying the second gas to the second portion for a second period of time that is different than the first period of time. As discussed above, *Goodyear* fails to teach or suggest supplying gases for varying periods of time. As such *Goodyear* fails to teach or suggest supplying the second gas to the first portion for a first period of time; and supplying the second gas to the second portion for a second period of time that is different than the first period of time, as recited in claim 44.

As discussed above, the Examiner has not provided any secondary references or pointed to any knowledge generally available to one of ordinary skill in the art to show any teaching, suggestion, or motivation to make the proposed modification of *Goodyear*. Thus, a *prima facie* case of obviousness has not been established because the cited references fail to recite the claimed limitations and furthermore, because there is no motivation to make the proposed modification. Accordingly, the Applicant submits that claim 44 is further patentable over the cited art.

Thus, the Applicant submits that independent claims 37 and 52, and all claims depending therefrom are patentable over *Goodyear*. The Applicants

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further submit that claims 43 and 44 are additionally patentable over *Goodyear*. Accordingly, the Applicant respectfully requests the rejection be withdrawn and the claims allowed.

**CONCLUSION**

Thus, the Applicants submit that all claims now pending are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issuance are earnestly solicited.

If, however, the Examiner believes that any unresolved issues still exist, it is requested that the Examiner telephone Mr. Alan Taboada at (732) 935-7100 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

 2/7/06  
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